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ABSTRACT

The effects of infant responsiveness and marital satisfaction on parent-infant reciprocity in face-to-face interactions are examined in this study. Thirty-two middle to upper-middle class couples attending LaMaze classes were recruited for the study. There were equal numbers of male and female infants. When the infants were approximately three days and 15 days old, a trained examiner administered the Neonatal Behavioral Assessment Scale. At 30 days each spouse independently completed a battery of self-report questionnaires. Husband and wife pairs were videotaped while discussing two marital issues and two upsetting non-marital issues. Parents were individually videotaped in face-to-face interaction with their child at 30 days and at approximately 60 days. Infants were assigned to high or low responsiveness groups. Parent couples were designated as either high or low in marital satisfaction. There were no significant interactions between marital satisfaction and infant responsiveness. In some cases father-infant interactions were altered by the infants' reciprocity patterns in responsiveness. Reciprocity patterns in mother-infant dyads were not systematically altered by infants' level of responsiveness. Mothers and fathers with low marital satisfaction responded more reciprocally to infant behavior. At four weeks, parents with low marital satisfaction appear to respond in a compensatory mode and become "locked in" to parent-infant interactions (Author/RH)

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MARITAL AND INFANT FACTORS IN THE EMERGING PARENT-INFANT RELATIONSHIP

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The present study examines the effects of infant responsiveness and marital satisfaction on parent-infant reciprocity in face-to-face interactions. Previous studies have shown the significant impact of the infant's contribution to the parent-infant relationship depending on the degree of alertness (Self, Belcastro, DeMeis, Jones & Justice, 1976; Korner, 1969), the clarity of the infant's cueing system (Korner, 1970), and sometimes the sex of the infant (Moss & Robson, 1968, Lewis, 1972). In spite of this repeated finding underlining the importance of infant characteristics, particularly responsiveness, many studies conceptualize infants as contributing equally to the parent-infant relationship. This study attempts to identify the impact of the infant's early pattern of responsivity on parent-infant reciprocity.

Investigators have also identified a mutual regulation between infants and parents immediately after birth and at three months in face-to-face interactions. These studies found that infants become more organized and predictable with contingent caregiving responses (Sander, 1964), infants use gaze aversions to regulate parental stimulation in face-to-face interactions (Stern, 1974), and the parent's sensitivity to the infant's cueing system alters the length of the infant's availability (Brazelton, Koslowski, & Main, 1974). These studies, however, seem to imply either that parents are equally available for interaction with their infants or that the origins of parental differences cannot be determined. Since the parent-infant relationship develops within a family system, this study hypothesized that the marital relationship may contribute to parental differences in parent-infant reciprocity. The study

was therefore designed to explore infant responsivity and marital satisfaction as two factors which may significantly alter the parent-infant relationship.

It was hoped that a study that considered both the parent's contribution as modified by marital satisfaction and the infant's contribution as limited by his/her responsiveness would more clearly establish the meaning of the interaction sequence for each member of the dyad. Based on these considerations we hypothesized that:

1) interactions between parents and responsive infants at four weeks would be more reciprocal than those between parents and unresponsive infants, and that this pattern would be true whether the transitions during face-to-face interaction were parent or infant-initiated.
2) the interactions between infants and parents with low marital satisfaction would be more reciprocal than those between infants and parents with high marital satisfaction, because the parents in unsatisfying marriages would rely on the parent-infant relationship to compensate for the marital relationship. If these parents were maritally distressed by clinical definition, we speculated that instead of the parent-infant relationship providing compensatory pleasure, it would act as a stress escalator and hostility or neglect might occur within the parent infant relationship.

METHOD

Subjects

Participants in this study were part of a larger longitudinal study of the transition to parenthood. Volunteer couples were recruited during the last trimester of the wife's pregnancy from LaMaze classes and were eligible if they were expecting their first child and had no serious complications during pregnancy. Of the original 58 couples who initially expressed an

interest in participation, 32 couples were selected for this study. The remaining couples were excluded from the study for medical problems, loss of interest or missing data.

The average age of the husbands was 30.3 years; average of the wives was 28.8 years. The couples had been married an average of 4.5 years and the average years of education for husbands was 16.5 years and for wives was 16.2 years. The couples were from middle to upper middle class socioeconomic status (18.8 average score, Class II on the Hollingshead-Redlich two-factor index). Twenty-three of the mothers had vaginal deliveries and 9 had C-sections. There were equal numbers of male and female infants (16 each). The average birthweight was seven pounds five ounces and ranged from 5 pounds 6½ ounces to ten pounds seven ounces. The average gestational age was 39.6 weeks ranging from 37 to 42 weeks. No serious complications occurred in any infant.

Procedure

When the infant was approximately three days old, a trained examiner administered the Neonatal Behavioral Assessment Scale (Brazelton, 1973) in the mother's hospital room. This assessment was repeated when the infant was approximately 15 days old in the couples' homes. The examiners reached a reliability of .93 at the beginning and in the middle of the study.

At approximately 30 days postnatally each couple was seen in a laboratory. Each spouse independently completed a battery of self-report questionnaires and was videotaped with their spouse discussing two marital issues and two upsetting issues external to their marriage. In addition, each parent was individually videotaped in face-to-face interaction with their infant. At approximately 60 days after the birth of their infant, the couples repeated this procedure omitting only the videotape of the spouse discussion.

Infants were then classified on their level of responsivity into two groups. The basis of the classification was established using the three day Brazelton scores. These scores were factor analyzed using principal components analysis with normal varimax rotation. The factor structures were generally consistent with those identified in previous studies (e. g. Osofsky & O'Connell, 1977). Factor I, Responsiveness, included all the orientation items and alertness and accounted for almost 44 percent of the variance in the scores. Factor II was an irritability factor. Since responsiveness accounted for the largest proportion of variance and in the literature has most frequently been identified as affecting parent-infant interactions (e.g., Self et al, 1976), Factor I was selected to group the infants. Based on a median split, the investigator assigned the infants a high or low responsive group.

Parents were similarly classified using a combined index of the Locke-Wallace Marital Adjustment Test (MAT - Locke & Wallace, 1959) and the Areas of Change Questionnaire (ACQ - Weiss, Hops & Patterson, 1973). Both instruments have been shown to be sensitive to differences in reported satisfaction between distressed and nondistressed couples (Birchler, Weiss & Vincent, 1975; Vincent, Friedman, Nugent & Messerly, 1979). Based on a median split couples were assigned to a group with high or low marital satisfaction. It needs to be reiterated, however, that none of the couples in this sample fell into a clinically distressed population.

Measures

Parent-infant reciprocity was assessed using the face-to-face interactions between parents and their one month old infants. The parents were asked to play with their infant as they might at home and were videotaped for approx-

imately three minutes. The parent sat in a comfortable chair in front of the infant in a naturalistic laboratory setting and the infant was seated in an infant seat. The play episode was videotaped with two cameras, one focused on the parent and the other on the infant. The cameras were not readily visible to the parent. Through the use of a split screen generator, a full-face image of both parent and infant were simultaneously recorded.

These play sequences were then coded at approximately one-seventh real time using a coding scale which focused on attentiveness and facial expressions. This scale was designed to capture the degree of responsivity between parent and infant. Both modalities in the coding scale followed a pattern of 1) off; 2)partial off; 3) neutral; 4) partial on; and 5) on. Trained coders rated every second of each three-minute episode using specially designed keyboards and an Esterline-Angus event recorder. Two coders simultaneously coded the interaction sequence, one coding attentiveness and the other facial expressions. All episodes were randomly assigned by subject, parent and coder. Every segment was rated at least twice for each modality. Interobserver agreement scores averaged .94 for mothers, .93 for fathers, and .82 for infant. The reliability scores ranged from .70 to 1.00.

Four indexes of reciprocity were developed to illustrate the degree of sensitivity of each partner to the other's cueing system. These indexes were: 1) the proportion of parent-initiated, infant-followed shifts from a positive to a negative direction, 2) the proportion of parent-initiated, infant-followed shifts from a negative to a positive direction, 3) the proportion of infant-initiated, parent-followed shifts from a positive to a negative direction, and 4) the proportion of infant-initiated, parent-followed shifts from a negative to a positive direction. These indexes only considered the parent-infant attention patterns in the face-to-face interaction episodes.

The indexes were tabulated twice by independent scorers blind as to the classification of the infant and parent. Arc sine transformations were then made on the scores.

RESULTS

To examine the influence of infant responsiveness and marital satisfaction on parent-infant reciprocity, a two (marital satisfaction) x two (infant responsiveness) MANOVA was performed. Husbands' data were analyzed separately from wives.

First the effect of the infant's responsiveness was analyzed to determine whether parents and alert infants responded to each other's cueing systems with similar shifts thus involving a more synchronous dyad. Although there were no significant multiple F's for fathers or mothers, significant univariates occurred for fathers. A significant main effect for infant responsiveness was noted for both father-initiated transitions. For father-initiated transition from a positive to a negative direction ($F = 4.78$, $p < .04$) and father-initiated transitions from a negative to a positive direction ($F = 5.10$, $p < .03$), alert infants followed their fathers' direction of shift more frequently. In addition, infant-initiated transitions from a negative to a positive direction in father-infant interactions approached significance ($F = 3.40$, $p < .08$), thus suggesting the possibility of a similar pattern to father-initiated shifts for the infant attention. Mother-infant interactions were not significantly altered by the infant's responsiveness.

The second variable that was hypothesized to effect parent-infant reciprocity was the parents' level of marital satisfaction. It was hypothesized that parents with low marital satisfaction would look to the parent-infant relationship for compensation. For mothers there was a significant main effect for marital satisfaction in the predicted direction for infant initiated shifts from

a positive to a negative direction ($F = 4.11$, $p < .05$). In mother-infant interactions, mother with low marital satisfaction tracked their infant shifts more closely than did mothers of high marital satisfaction. Although the father-infant reciprocity indexes were not significant, the main effects approached significance for both infant initiated indexes. As infants made a transition from a positive to a negative direction ($F = 2.98$, $p < .10$) and a transition from a negative to a positive direction ($F = 3.79$, $p < .06$), fathers with low marital satisfaction were more likely than fathers with high marital satisfaction to follow in the same direction.

There were no significant interactions between marital satisfaction and infant responsiveness.

DISCUSSION

This study was designed to identify differences in reciprocity patterns in face-to-face interactions between parents and their infants as they varied according to the infant's level of responsiveness or the parent's marital satisfaction. By identifying factors modifying both the infant and parent's contribution, the investigator felt that the emerging parent-infant relationship could more clearly be viewed as functioning within a family system.

The findings indicated that in some cases father-infant interactions are altered by the infant's responsiveness. Responsive infants are more likely to follow their fathers' transitions in both positive and negative directions than unresponsive infants. The responsive infant appears to be more sensitive to father-initiated shifts, although fathers also seem to follow their responsive infants. In contrast, reciprocity patterns in the mother-infant dyads are not systematically altered by infants' level of responsiveness. At four weeks fathers do not seem to be as skillful at eliciting their infant's interest. It appears that mothers who in all probability have had more contact with very

young infants do not find the infant's responsiveness as a limiting factor as fathers do. We predict, however, that these differences may diminish over time as mothers and fathers gain more experience with their infants. It should be mentioned, however, that if fathers do have responsive infants, the father-infant dyad seems to be synchronous in its transitions thus indicating that fathers with responsive infants are aware of the positive dimensions of the parent-infant relationship.

These findings raise some possible questions about the father-infant studies which indicate that fathers interact in more highly stimulating ways than do mothers (Yogman, 1977). Perhaps this finding is only true among father-infant dyads where the infant is responsive and different patterns emerge in dyads with unresponsive infants.

The second finding about the impact of marital satisfaction on the parent-infant relationship was also partially confirmed. Mothers with low marital satisfaction respond more reciprocally to infant-initiated shifts from a positive to a negative direction than do mothers with high marital satisfaction. These mother-infant dyads appear to be more synchronous when the infant initiates a gaze towards his mother. For fathers the pattern seems to be similar. Fathers with low marital satisfaction respond more reciprocally to infant-initiated shifts in both a positive and negative direction.

At four weeks both mothers and fathers with low marital satisfaction seem to respond within the parent-infant relationship in a compensatory mode. These parents seem to become, at least four weeks after the birth, locked in with their infants. The long-term effects of these patterns and their persistence over time cannot be identified from these data; however, currently we are analyzing parent-infant interactions at eight weeks and collecting data on attachment behaviors at one year. We suspect that these parent-infant

relationships may be more characteristically overprotective in nature or the parents may become overinvested. In addition, we predict that these infants may exhibit ambivalent attachment to their parents at one year. We also speculate that if the marital relationship is by clinical definition maritally distressed, these dyads may develop aversive patterns of interaction.

These findings by partial confirmation of the hypotheses underscore the importance of considering the parent-infant relationship within the family system. They also point to the importance of determining factors which may alter both the infant and the parent's contributions to the parent-infant relationship prior to interpreting the meaning of behavior patterns within the relationship.

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